

**AMENDMENTS TO THE CLAIMS**

For the convenience of the Examiner, all claims have been presented whether or not an amendment has been made. The claims have been amended as follows:

1. **(Currently Amended)** A method of processing a database service query, comprising:  
receiving a service query,  
~~applying principles of logic to the service query to obtain~~ **obtaining** a sum of terms **by expanding at least one nested term into one or more un-nested terms,**  
evaluating each term as a separate SQL instruction, and  
executing each separate SQL instruction.
2. **(Original)** The method as claimed in claim 1, further comprising expanding each term to remove NOT operators.
3. **(Original)** The method as claimed in claim 2, wherein the sum of terms are expanded using Boolean logic.
4. **(Original)** The method as claimed in claim 1, in which the service query is an X.500 or LDAP service query.
5. **(Original)** The method as claimed in claim 1, in which the service query is a search service query.
6. **(Original)** A method of processing a database service query, comprising:  
determining a SQL instruction representative of a function;  
listing the results of a subtracted SQL instruction in a first list, listing the results of a non-subtracted SQL instruction in a second list; and  
not listing results which are duplicates of previously listed subtracted or non-subtracted results.

7. **(Original)** The method as claimed in claim 6, in which the service query is an X.500 or LDAP query.

8. **(Original)** The method as claimed in claim 6, in which the service query is a search service query.

9. **(Currently Amended)** A ~~directory service arrangement including:~~ **system for processing a directory service query, comprising:**

a database using a plurality of tables, each table having a plurality of rows and columns, and storing arbitrary data; and

means for processing a service query by ~~applying principles of logic to the service query to obtain~~ **obtaining** a sum of terms **by expanding at least one nested term into one or more un-nested terms**, evaluating each term as a separate SQL instruction, and executing each separate SQL instruction.

10. **(Currently Amended)** The directory service arrangement as claimed in claim 9, further ~~including~~ **comprising** means to perform X.500 or LDAP services.

11. **(Currently Amended)** A directory service arrangement ~~including:~~ **comprising:**

a database using a plurality of tables, each table having a plurality of rows and columns, and storing arbitrary data, and

means for processing a service query by determining a SQL instruction representative of a function, listing the results of a subtracted SQL instruction in a first list, listing the results of a non-subtracted SQL instruction in a second list, and not listing results which are duplicates of previously listed subtracted or non-subtracted results.

12. **(Currently Amended)** The directory service arrangement as claimed in claim 11, further ~~including~~ **comprising** means to perform X.500 or LDAP services.

13. **(Original)** A method for processing a database service query, comprising:  
translating a service query to an expression;  
simplifying the expression to a number of smaller expressions, each smaller expression being capable of being flattened;  
flattening each smaller expression; and  
executing each flattened expression.

14. **(Currently Amended)** A method of processing a directory service query, comprising:  
receiving a directory service query,  
~~applying principles of logic to the directory service query to obtain~~ **obtaining** a sum of terms **by expanding at least one nested term into one or more un-nested terms,**  
mapping the sum of terms to SQL,  
evaluating each mapped term as a separate SQL instruction, and  
executing each separate SQL instruction.

15. **(Previously Presented)** The method as claimed in claim 14, further comprising expanding each term to remove NOT operators.

16. **(Original)** The method as claimed in claim 15, wherein the sum of terms are expanded using Boolean logic.

17. **(Previously Presented)** The method as claimed in claim 14, in which the service query is an X.500 or LDAP service query.

18. **(Previously Presented)** The method as claimed in claim 14, in which the service query is a search service query.

19. **(Previously Presented)** A method of processing a directory service query, comprising:

determining a SQL instruction representative of the directory service query;

listing the results of a subtracted SQL instruction in a first list, listing the results of a non-subtracted SQL instruction in a second list; and

not listing results which are duplicates of previously listed subtracted or non-subtracted results.

20. **(Previously Presented)** The method as claimed in claim 19, in which the service query is an X.500 or LDAP query.

21. **(Previously Presented)** The method as claimed in claim 19, in which the service query is a search service query.

22. **(Currently Amended)** A ~~directory service arrangement, including:~~ system for processing a directory service query, comprising:

a database using a plurality of tables, each table having a plurality of rows and columns, and storing arbitrary data; and

means for processing a directory service query by ~~applying principles of logic to the directory service query to obtain~~ obtaining a sum of terms by expanding at least one nested term into one or more un-nested terms, mapping the sum of terms to SQL, evaluating each mapped term as a separate SQL instruction, and executing each separate SQL instruction.

23. **(Currently Amended)** The directory service arrangement as claimed in claim 22, further ~~including~~ comprising means to perform X.500 or LDAP services.

24. **(Currently Amended)** A directory service arrangement ~~including~~  
**comprising**:

a database using a plurality of tables, each table having a plurality of rows and columns, and storing arbitrary data, and

means for processing a directory service query by determining a SQL instruction representative of the directory service query, listing the results of a subtracted SQL instruction in a first list, listing the results of a non-subtracted SQL instruction in a second list, and not listing results which are duplicates of previously listed subtracted or non-subtracted results.

25. **(Currently Amended)** The directory service arrangement as claimed in claim 24, further ~~including~~ **comprising** means to perform X.500 or LDAP services.

26. **(Previously Presented)** A method for processing a directory service query, comprising:

translating a directory service query to an expression;  
simplifying the expression to a number of smaller expressions, each smaller expression being capable of being flattened;  
flattening each smaller expression; and  
executing each flattened expression.

27. **(New)** The method of claim 1 further comprising:  
obtaining a plurality of results wherein each separate SQL instruction is associated with one or more results; and  
combining the one or more results associated with each separate SQL instruction.

28. **(New)** The method of claim 27, wherein:  
evaluating each term as a separate SQL instruction comprises:  
identifying at least one term associated with at least one NOT operator; and  
expanding the at least one term associated with the at least one NOT operator into at least one negative term;

obtaining a plurality of results comprises obtaining one or more negative results associated with the at least one negative term; and

combining the one or more results comprises subtracting the one or more negative results associated with the at least one negative term.

29. **(New)** The method of claim 27, further comprising, subsequent to obtaining a plurality of results:

identifying one or more duplicate results; and

deleting or ignoring the one or more duplicate results.

30. **(New)** The method of claim 1, wherein:

evaluating each term as a separate SQL instruction comprises:

identifying at least one term associated with at least one NOT operator; and

expanding the at least one term associated with at least one NOT operator into at least one negative term and at least one positive term.

31. **(New)** The method of claim 30, further comprising:

obtaining a plurality of results wherein each term is associated with one or more results;

generating a first list comprising one or more results associated with the at least one negative term;

generating a second list comprising one or more results associated with the at least one positive term; and

removing or omitting from the second list one or more results associated with the at least one negative term.